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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,359	06/23/2003	Boris Tsybakov	030202	8891

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QUALCOMM INCORPORATED
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EXAMINER

LEE, ANDREW CHUNG CHEUNG

ART UNIT	PAPER NUMBER
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2619

NOTIFICATION DATE	DELIVERY MODE
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11/02/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary

Application No.

10/602,359

Applicant(s)

TSYBAKOV ET AL.

Examiner

Andrew C. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-9,12-17 is/are rejected.
- 7) ☐ Claim(s) 7,10 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicants elected the species of group I which corresponds to claims 1 –17.
2. Claims 1 – 17 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 6, 8 – 9, 12 – 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scherzer et al. (US 6901062 B2) in view of Czaja et al. (US 6424631 B1).

Regarding claims 1, 6, 17, Scherzer et al. disclose a method of communications, a communications station (Fig. 2, column 6, lines 4 – 21), comprising: a processor, means for dividing a plurality of subscriber stations into a plurality of groups (“to group the subscriber units into a number of groups (e.g. M groups)” correlates to dividing a plurality of subscriber stations into a plurality of groups, column 9, lines 33 – 42); assigning a different plurality of orthogonal codes to each of the groups (column 10, lines 60 – 65), the number of the orthogonal codes assigned to one of the groups being less than the number of subscriber stations in said one of the groups (column 11, lines 10 – 19); encoding

communications to one of the subscriber stations in said one of the groups at a data rate (column 17, lines 46 – 52); and

Scherzer et al. do not disclose explicitly determining whether to spread at least a portion of communications to said one of the subscriber stations with one of the orthogonal codes assigned to said one of the groups as a function of the data rate.

Czaja et al. teach determining whether to spread at least a portion of communications to said one of the subscriber stations with one of the orthogonal codes assigned to said one of the groups as a function of the data rate (Fig. 3, column 7, lines 47 – 66).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Scherzer et al. to include the features of determining whether to spread at least a portion of communications to said one of the subscriber stations with one of the orthogonal codes assigned to said one of the groups as a function of the data rate as taught by Czaja et al. in order to provide an apparatus and method for determining the rate of a variable rate encoded data frame (as suggested by Czaja et al., see column 3, lines 8 – 10).

Regarding claims 2, 8, Scherzer et al. disclose the method claimed further comprising allocating to said one of the subscriber stations one or more of the orthogonal codes assigned to said one of the groups, said one of the orthogonal codes being selected from the one or more of the orthogonal codes allocated to said one of the subscriber stations (column 10, lines 60 – 65, column 11, lines 40 – 46).

Regarding claims 3, 9, Scherzer et al. disclose the method claimed further comprising allocating to each of the subscriber stations in said one of the groups one or more of the orthogonal codes assigned to said one of the groups (column 10, lines 60 – 65), and using each of the orthogonal codes in said one of the groups to spread at least a portion of communications to different subscriber stations in said one of the groups (column 11, lines 40 – 46),

Scherzer et al. do not disclose the orthogonal code being used to spread said at least a portion of the communications to each of the different subscriber stations being selected from the respective one or more of the codes allocated thereto.

Czaja et al. teach the orthogonal code being used to spread said at least a portion of the communications to each of the different subscriber stations being selected from the respective one or more of the codes allocated thereto (Fig. 6A, Fig. 7, column 11, lines 1 – 14, column 12, lines 56 – 63).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Scherzer et al. to include the features of the orthogonal code being used to spread said at least a portion of the communications to each of the different subscriber stations being selected from the respective one or more of the codes allocated thereto as taught by Czaja et al. in order to provide an apparatus and method for determining the rate of a variable rate encoded data frame (as suggested by Czaja et al., see column 3, lines 8 – 10).

Regarding claims 4, 12, Scherzer et al. disclose the method, the communication station claimed further comprising spreading a portion of the communications to said one

of the subscriber stations with a orthogonal code assigned to the groups (column 10, lines 60 – 65).

Scherzer et al. do not disclose explicitly the method, communication station claimed further comprising spreading a second portion of the communications to said one of the subscriber stations with a second orthogonal code different from each of the orthogonal codes assigned to the groups.

Czaja et al. teach spreading a second portion of the communications to said one of the subscriber stations with a second orthogonal code different from each of the orthogonal codes assigned to the groups (“repeated twice for the $\frac{1}{2}$ rate” correlates to spreading a second portion of the communications to said one of the subscriber stations with a second orthogonal code, column 11, lines 15 – 23, lines 45 – 54).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Scherzer et al. to include the features of spreading a second portion of the communications to said one of the subscriber stations with a second orthogonal code different from each of the orthogonal codes assigned to the groups as taught by Czaja et al. in order to provide an apparatus and method for determining the rate of a variable rate encoded data frame (as suggested by Czaja et al., see column 3, lines 8 – 10).

Regarding claims 5, 13, Scherzer et al. disclose the method, the communication station claimed further comprising spreading a portion of the communications to said one of the subscriber stations with a orthogonal code assigned to the groups (column 10, lines 60 – 65).

Scherzer et al. do not disclose explicitly the method, communication station claimed wherein the data rate of the communications comprises a full rate and less than a full rate, and wherein said at least a portion of the communications to said one of the subscriber stations is spread with said one of the orthogonal codes when the data rate of the communications is the full rate, and wherein said at least a portion of the communications to said one of the subscriber stations is not spread with said one of the orthogonal codes when the data rate of the communications is less than the full rate.

Czaja et al. teach the method, communication station claimed wherein the data rate of the communications comprises a full rate and less than a full rate ("full rate 9600, half rate 4800, quarter rate 2400" correlates to a full rate and less than a full rate, column 6, lines 3 – 9), and wherein said at least a portion of the communications to said one of the subscriber stations is spread with said one of the orthogonal codes when the data rate of the communications is the full rate (Fig. 6A, column 11, lines 1 – 14), and wherein said at least a portion of the communications to said one of the subscriber stations is not spread with said one of the orthogonal codes when the data rate of the communications is less than the full rate (Fig. 5, column 10, lines 51 – 67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Scherzer et al. to include the features of wherein the data rate of the communications comprises a full rate and less than a full rate, and wherein said at least a portion of the communications to said one of the subscriber stations is spread with said one of the orthogonal codes when the data rate of the communications is the full rate, and wherein said at least a portion of the communications to said one of the subscriber stations is not spread with said one of the

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orthogonal codes when the data rate of the communications is less than the full rate. as taught by Czaja et al. in order to provide an apparatus and method for determining the rate of a variable rate encoded data frame (as suggested by Czaja et al., see column 3, lines 8 – 10).

Regarding claim 14, Scherzer et al. disclose the method, the communication station claimed further comprising spreading a portion of the communications to said one of the subscriber stations with a orthogonal code assigned to the groups (column 10, lines 60 – 65).

Scherzer et al. do not disclose explicitly the communications station claimed wherein the less than full rate comprises a data rate equal to $1/2$ the full rate.

Czaja et al. teach the communications station claimed wherein the less than full rate comprises a data rate equal to $1/2$ the full rate (“half rate 4800” correlates to the less than full rate comprises a data rate equal to $1/2$ the full rate, column 6, lines 3 – 9).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Scherzer et al. to include the features of the communications station claimed wherein the less than full rate comprises a data rate equal to $1/2$ the full rate as taught by Czaja et al. in order to provide an apparatus and method for determining the rate of a variable rate encoded data frame (as suggested by Czaja et al., see column 3, lines 8 – 10).

Regarding claim 15, Scherzer et al. disclose the method, the communication station claimed further comprising spreading a portion of the communications to said one of the

subscriber stations with a orthogonal code assigned to the groups (column 10, lines 60 – 65).

Scherzer et al. do not disclose explicitly the communications station claimed wherein the less than full rate comprises a data rate equal to $1/2$ the full rate and a data rate equal to $1/8$ the full.

Czaja et al. teach the communications station claimed wherein the less than full rate comprises a data rate equal to $1/2$ the full rate and a data rate equal to $1/8$ the full rate ("half rate 4800bps and eighth rates 1200 bps" correlates to the less than full rate comprises a data rate equal to $1/2$ the full rate and a data rate equal to $1/8$ the full rate, column 6, lines 3 – 9).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Scherzer et al. to include the features of the communications station claimed wherein the less than full rate comprises a data rate equal to $1/2$ the full rate as taught by Czaja et al. in order to provide an apparatus and method for determining the rate of a variable rate encoded data frame (as suggested by Czaja et al., see column 3, lines 8 – 10).

Regarding claim 16, Scherzer et al. disclose the method, the communication station claimed further comprising spreading a portion of the communications to said one of the subscriber stations with a orthogonal code assigned to the groups (column 10, lines 60 – 65).

Scherzer et al. do not disclose explicitly the communications station claimed wherein the encoder comprises a vocoder.

Czaja et al. teach the communications station claimed wherein the encoder comprises a vocoder ("vocoder" correlates to the encoder comprises a vocoder, column 5, lines 27 – 42).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Scherzer et al. to include the features of the communications station claimed wherein the encoder comprises a vocoder as taught by Czaja et al. in order to provide an apparatus and method for determining the rate of a variable rate encoded data frame (as suggested by Czaja et al., see column 3, lines 8 – 10).

Allowable Subject Matter

4. Claims 7, 10, 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a) Gopalakrishnan et al. disclose method for data rate selection in a wireless communication system.
- b) Willenegger et al. (US 20030224798 A1) disclose dynamic channelization code allocation.
- c) Weaver Jr. (6044103) discloses reduced peak-to-average amplitude dual channel link.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571) 272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew C. Lee/::<10/20/2007>

EDAN . . ORGAD
SUPERVISORY PATENT EXAMINER

Edan Orgad 10/31/07